

**REMARKS**

The following remarks are submitted as a full and complete response to the outstanding Action. Currently, claims 1, 2, 4-8, 10-14 and 16-19 are pending in this application, of which claims 1, 7, 13 and 19 have been amended to place the application in a better form for examination. No new matter has been introduced. Accordingly, claims 1, 2, 4-8, 10-14 and 16-19 are submitted for reconsideration.

**Claim Rejections**

**Claims 1-3, 7-9, 13-15 and 19 are rejected under 35 U.S.C. §102(b) as being clearly anticipated by APA (Applicant's Prior Art), and claims 4-6, 10-12 and 16-18 are rejected under 35 U.S.C. §103(a) as being unpatentable over APA .**

First , it is noted that the outstanding Action clearly erred in rejecting claims 3, 9, and 15, which already have been canceled by the previously filed Response of April 9, 2003. Next, it is respectfully submitted that the previously argued distinction regarding the absence of a comparator in the **APA** is clearly set forth in claims. For instance, claims 1, 2, 7, 8, 13, 14 and 19 already recite a control circuit comprising a switch circuit and a switching signal generation circuit that further includes a comparator.

More specifically, the control circuit of a DC-DC converter of the present invention includes a switching signal generation circuit which is internal to the control circuit and generates first and second switching signals for controlling step-down and step-up operations using a duty setting signal DTC, which reduces the number of external terminals. The outstanding Action asserts that the present invention is obvious over the **APA**. However, as shown in Figs. 1, 2 and 5, the **APA** receives a switching signal CH

via an external terminal. Furthermore, the **APA** does not use a duty setting signal DTC to generate the switching signal CH. Accordingly, the **APA** does not teach or suggest a switching signal generation circuit provided in the control circuit to generate a switching signal using a duty setting signal.

Nonetheless, to particularly address the concern set forth in the outstanding Action regarding a signal generator that is internal to the control circuit, claims 1, 7 and 13 from which claims 2, 8 and 14 depend have been amended to explicitly recite that the claimed signal generator (i.e., switching signal generation circuit) is internal to the control circuit. Additionally, regarding claim 19, the term "internally" has been added to describe the steps of generating first and second switching signals.

Accordingly, claims 1, 2, 7, 8 , 13, 14 and 19, as amended, now specifically require an internal switching signal generation circuit, or internally generated switching signals, whereas the **APA** does not even disclose or teach a signal generator, much less a signal generator that is internal to a control circuit, or has a comparator to internally generate switching signals.

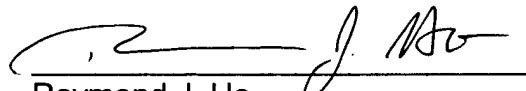
In view of the above remarks, the Applicants respectfully submit that each of claims 1, 2, 4-8, 10-14 and 16-19 recites subject matter which is neither disclosed nor suggested in the cited art. Applicants therefore request that each of claims 1, 2, 4-8, 10-14 and 16-19 be found allowable, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by

telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account No. 01-2300.

Respectfully submitted,



Raymond J. Ho  
Attorney for Applicants  
Registration No. 41,838

**Customer No.: 004372**

AREN'T FOX KINTNER PLOTKIN & KAHN, PLLC  
1050 Connecticut Avenue, N.W.  
Suite 400  
Washington, D.C. 20036-5339  
Tel: (202) 857-6000  
Fax: (202) 638-4810

RJH:elz

Enclosure: Petition for Extension of Time

TECH/201917.1